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AGRICULTURE

No. 238



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CONTENTS

PEOPLE'S REPUBLIC OF CHINA

I. GENERAL INFORMATION

National

- Computers Used in Crop Disease Forecasting in Zhejiang
(JISUANJI SHIJIE, 20 Sep 82)..... 1

- Briefs
Unprecedented Savings..... 3

Gansu

- Widespread Armyworm Damage to Crops Predicted
(GANSU RIBAO, 1 Jul 82)..... 4

- Various Parts of Province Gird Early for Floods
(GANSU RIBAO, 13 Jun 82)..... 6

Guangdong

- Fulfillment of Summer Grain Quotas Ahead of Schedule Reported
(GUANGZHOU RIBAO, 6 Sep 82)..... 8

Heilongjiang

- On-the-Spot Meeting Urges Efforts To Raise Soil Fertility
(HEILONGJIANG RIBAO, 27 Jun 82)..... 10

Shaanxi

- Exhortation Issued on Fall Wheat Planting
(SHAANXI RIBAO, 29 Aug 82)..... 11

Shandong

Spring Sowing Completed in Good Time Despite Drought (DAZHONG RIBAO, 9 Jun 82).....	15
--	----

ABSTRACTS

EXPERIMENTATION

GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] No 5, 8 Sep 82.....	17
---	----

MACHINERY

NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] No 3, 1982.....	22
--	----

NATURAL RESOURCES

ZIRAN ZIYUAN [NATURAL RESOURCES] No 3, Sep 82.....	26
--	----

I. GENERAL INFORMATION

COMPUTERS USED IN CROP DISEASE FORECASTING IN ZHEJIANG

Beijing JISUANJI SHIJIE [CHINA COMPUTERWORLD] in Chinese No 18, 20 Sep 81 p 1

[Article: "Zhejiang Province Achieves Preliminary Results in Using Computers for Long-Term Forecasting of Crop Diseases"]

[Text] In the past 1-2 years, the Zhejiang Computer Technology Institute has been working in coordination with Zhejiang Province Academy of Agricultural Science and Zhejiang Agricultural Department's Central Station for Tracking and Reporting Diseases and Pests in a joint project using the computer to conduct (long, medium and short term) forecasts on late rice crop disease in the province, and wheat/barley scab. Some encouraging results have been achieved. The success of long term forecasting, in particular, is of great use to agricultural production, as medium and short term forecasting can only be conducted during the middle or late growth period when the crop diseases are already beyond control and pesticides are no longer effective.

Last year, the mathematical statistical method was used in forecasting Zhenhai County's late rice crop diseases and insect pests. The computation results predicted serious calamity and the information was circulated in advance among concerned groups. It turned out that the prediction tallied with the actual disease conditions. At the end of February this year, they conducted the same computation on Jiaxing Prefecture's major and minor diseases; the results predicted light disease occurrence, which also tallied with actual conditions. Based on the long, medium and short term forecasting computation system, the Agricultural Science Institute of Jiaxing Prefecture worked in coordination with concerned crop protection departments and changed the old practice of extensively spraying "safety pesticides" by limiting the spraying area to only 220,000 mu of the entire region's 1 million odd mu, thus reducing the spray areas by 780,000 mu and cutting down the pesticide cost by over 470,000 yuan. The computer has earned the reputation of being a "good consultant" for predicting crop diseases and insect pests.

In recent years, the Institute and the Crop Protection Institute under Zhejiang Academy of Agricultural Science have expanded their late rice blast forecasting operations to 5 major prefectures and 18 counties. The computer has processed 170 years of accumulated historical information and 1.2 million data. Five comprehensive forecasting stations have been set up. The

Provincial Agriculture Department uses the computer's computation results as basis for its reports; in collaboration with the province's central station for tracking and reporting crop diseases and insect pests, it is planning to expand the wheat/barley scab disease forecasting operations to 32 counties throughout the entire province, thus allowing the computer to play a greater role in forecasting crop diseases and insect pests, open up a new path for our country's battle against crop diseases and insect pests, thereby insuring bumper harvests all year round.

9119

CSO: 4008/98

BRIEFS

UNPRECEDENTED SAVINGS--Since the Third Plenary Session of the 11th Party Central Committee, China's rural savings institutions have seen unprecedented development, three consecutive steps forward having taken place during the last 3 years as follows: A 38.6 percent increase over 1978 in 1979; a 49.8 percent incremental increase in 1980; and another incremental increase of 42.1 percent in 1981. The amount of increase during these 3 years has been almost double the development of savings deposits during the previous 29 years. As of the end of 1981, average savings per capita of rural population were 25.66 yuan, a 16.79 yuan increase from the end of 1978. This year new increases have occurred in rural savings. As of the end of July the sum stood at 24,898,000,000 yuan, an incremental increase of 17.4 percent over last year, with average savings per capita of rural population amounting to 30.12 yuan. [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 9 Sep 82 p 2] 9432

CSO: 4007/5

WIDESPREAD ARMYWORM DAMAGE TO CROPS PREDICTED

Lanzhou GANSU RIBAO in Chinese 1 Jul 82 p 2

[Article in "Agricultural Forecast" column by Gansu Provincial Plant Protection Center: "There Are Many Armyworms in Our Province This Year and They Must Be Controlled Without Delay"]

[Text] Since the last 10 days of May this year, a great number of adult armyworms have swarmed into our province. The development of the adult armyworm is relatively concentrated, and its peak period came about 10 days earlier than in previous years. The number of adults is close to that in the year of the highest incidence over the past 10 years. One black light lamp and two imago-killing devices of the measuring and reporting station of the Agricultural Bureau in Qingyang Prefecture killed 2,041 adult armyworms in the first 10 days of June, 204 times higher than the number killed in the same period of last year, and the greatest development of adults occurred on 1 and 7 June. In Lintao County, the peak development of adults occurred on 2 June, 12 days earlier than it did last year. In the first 10 days of June, a black light lamp of the measuring and reporting center of the Agrotechnical Center in Gaolin County killed 1,446 adults, 20 times the number in the same period of 1980 and 14 times the number in the same period of 1981. The peak period for adult development was from 2 to 4 June.

It is estimated that this year armyworms will be of medium incidence in the central and eastern parts of Gansu, but in some areas they will be of high incidence. In the counties of Wenxian, Chengxian, Huixian, and Tianshui, there will be a medium incidence. After 5 July, most of the armyworm larvae will have completed their three-stage development and will enter the intense feeding period of their post three-stage development. In the first and second 10-day periods of July, they will run rampant and harm such crops as wheat and corn. Therefore, in the eastern, western, and southern areas of Gansu, the crucial period for controlling larvae in the pre-third stage is from the end of June to before 5 July, and for the middle part of the province this crucial period is the first 10 days of July.

The most effective method of control at present is the use of agricultural chemicals: 1) every mu can be sprayed with 2 jin of powder containing 6 percent dipterax; for every mu, 2 liang of raw DDVP, to which 5 jin of water is added, can be mixed with 40 jin of fine sand (earth) to form DDVP arsen

oppyrite for spraying evenly in the fields; on every mu, 150 jin of crystal dipterax 800 liquid can be sprayed; 4) on every mu, 150 jin of 600 liquid containg 50 percent sevin can also be sprayed; and 5) on every mu, 1 liang of raw (sulfuric phosphorous) to which 150 jin of water is added, can be sprayed. When spraying with the motorized sprayer, the diluted consistency of the agricultural chemicals can be about 5 times greater than that when using ordinary sprayers. It is hoped that the agrosience plant departments at all levels will strengthen their forecasts and quickly control the armyworms.

9727

CSO: 4007/472

VARIOUS PARTS OF PROVINCE GIRD EARLY FOR FLOODS

Lanzhou GANSU RIBAO in Chinese 13 Jun 82 p 1

[Article: "Making Good Preparations Without Delay for Flood Protection Ensures Safety During Flood Season"]

[Text] According to a news roundup by our correspondents, many localities in our province, conscientiously summing up the experiences and lessons of the past, have made preparations without delay this year for flood prevention in order to ensure safety during the flood season.

In line with this year's changeable weather and early indications of floods, Jiuquan Prefecture has set up defenses for "protection against catastrophic floods" and had given priority to protecting cities and towns from floods. It had determined that the key to flood control is its 6 reservoirs, 4 dikes, and 5 channel heads. Beginning in the first 10 days of May, it held meetings on, made arrangements for, and carried out various flood-control measures. Nine flood-prevention headquarters have been set up in the prefecture with 109 working personnel assigned to them. At the 6 large and medium-sized reservoirs, 36 emergency teams and 7 emergency squads have been organized, totaling over 3,700 persons. Over 23,000 straw bags and gunnysacks have been prepared. Conscientiously drawing a lesson from the collapse of the secondary dam at Danghe Reservoir in 1979, Danhuang County has taken flood protection measures without delay. In the county, the key defenses are the Danghe Reservoir, Zhonggan Head, Zonggan Channel, Huangshui Dam Reservoir, and Chengxi Flood-Control Dikey. At these places these emergency squads totaling 640 persons have been set up. The 11 people's communes in the county have each formed an 100-man emergency squad made up of cadres, people, and soldiers at the basic level.

Liangdang County, which last year suffered a catastrophic flood, first of all this year dispelled the idea, which lowers one's guard and underestimates the threat, on the part of some people that "we had our flood last year so there won't be any problem this year," and carried out flood protection ideologically and organizationally. Based on the lessons of last year, where the riverbed and ravines silted up, the river rose suddenly and sharply, and dikes were breached and dams destroyed, the county decided to take the following flood-protection measures: clearing way silt in river branches and canals, clearing away obstacles in the Yao Channel and the Guan Channel, and plugging leaks. By the end of May, over 3,100 meters of the 3,720 meter-long flood-prevention project on the Liangdang River had been completed,

and it is estimated that the project will be basically completed by the first 10 days of June. Not only was the base cleaned 1.2 meters deeper than in the past but the dikes and dams were made half a meter higher and at their key positions were given reinforced concrete structures. The project to clear away obstacles in the Guan Channel is basically finished.

Jingyang County, which is located along the bank of the Huanghe River at an early date this year overcame the idea of leaving things to chance and firmly carried out the policy of "putting protection first." The county vigorously grasped the work of repairing, strengthening, and setting up defenses on water-damaged projects and important dangerous sections. The important stretches of river dikes that touch villages and irrigation facilities were made the keys to flood protection, and as fast as possible repairs were carried out to strengthen river dikes so that preparedness would avert peril. Jingchuan County, located at the confluence of the Jinghe and Ruihe rivers, is now, with the urban construction bureau and other departments concerned in the lead, organizing technicians to carry out flood-prevention measures such as a big safety inspection of the four ditches and the street flood drains and culverts in the city proper and its environs in order to eliminate hidden dangers in good time. This spring the county also repaired and strengthened the dike protection and bank revetment water-damaged projects along the Jinghe and Ruihe rivers, thereby strengthening their flood-control capacity.

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CSO: 4007/472

FULFILLMENT OF SUMMER GRAIN QUOTAS AHEAD OF SCHEDULE REPORTED

Guangzhou GUANGZHOU RIBAO in Chinese 6 Sep 82 p 1]

[Article: "Guangzhou Fulfills Summer Grain State Purchase Quotas Ahead of Schedule; Broad Masses of Commune Members Celebrate Victorious Convening of 12th Party Central Committee With Real Action"]

[Text] The broad masses of commune members in Guangzhou's suburban counties (and districts) have celebrated with real action the victorious convening of the 12th Party Central Committee by eagerly selling patriotic grain to the state. The city fulfilled its summer grain state purchase quotas 10 days ahead of schedule. As of 31 August, 574 million jin of paddy had been put into storage in 101 percent completion of state purchase quotas. The amount stored represented an increase of 89 million jin over the same period last year. In celebration of the victorious fulfillment of state summer grain purchase quotas, the Municipal Grain Bureau held an awards meeting on 3 and 4 September.

The speed of storage of this year's state purchased summer grain, the large quantity, the good quality, and the high enthusiasm of the masses for selling their grain to the state were unprecedented. During the high point of storage, people made 60,000 trips daily to haul grain. Households in the municipality selling 10,000 jin of grain numbered 185. In Hua County alone, households that fulfilled their quotas for the entire year from a single crop numbered more than 22,000. This was more than 37 percent of the total number of households. Grain sent to storage was dry, plump, clean, and fresh in color and luster.

This year's fine situation in state purchase of summer grain fully reflects the power of party policies. Since the Third Plenary Session, the party's various rural programs and policies have been comprehensively implemented; various forms of production responsibility systems have been perfected and improved; the obligations commune members owe to the country and the collective have been spelled out; the enthusiasm for production of the broad masses of peasants has been fully aroused; and these actions plus scientific farming and selection of superior varieties of hybrid rice for growing have brought about a bumper harvest from the early rice crop, with an increased harvest in every county and prefecture. In addition, the 3 year guarantee policy in assumption of sole responsibility for grain production by the masses; went from understanding to confidence, and from confidence to a sense of relief, thereby stirring enthusiasm for early sales of grain, sales of good grain, and much sales of grain.

The fulfillment of state summer grain procurement quotas is also inseparable from the efforts of the broad masses of employees in grain departments. After rural villages instituted various forms of production responsibility systems, peasants changed from a system whereby production teams sold the grain to household sales of grain, and the number of grain selling units changed from the former somewhat more than 17,500 to somewhat more than 480,000. The amount of work at grain stations increased 22 fold. Faced with this new situation, grain departments spared no effort, and more than 5,000 employees worked round the clock, each working more than 10 hours daily. In order to hurry the pace of grain procurement, all grain stations increased the number of procurement sites, set up more scales, improved methods of receiving grain, and simplified grain receipt procedures.

In order to summarize experiences promptly and reward the advanced, the Municipal Grain Bureau decorated 30 advanced collectives and 217 advanced individuals at awards meetings.

9432

CSO: 4007/5

ON-THE-SPOT MEETING URGES EFFORTS TO RAISE SOIL FERTILITY

Harbin HEILONGJIANG RIBAO in Chinese 2. Jun 82 p 1

[Article: "Do a Good Job of Raising Livestock and Collecting Manure So As To Effectively Restore Soil Fertility"]

[Text] According to a survey, the organic matter content of the soil in our province's cultivated land is now decreasing at an annual rate of from 0.1 to 0.2 percent. Recently, at an on-the-spot meeting on raising livestock and collecting manure, the provincial government exhorted rural areas throughout the province to build up the stocks of agricultural fertilizer centered on raising livestock and collecting manure, so that next year the application of farmyard manure will rise from its present level of 2,000 jin per mu to over 2,500 jin per mu.

There are many advanced models in livestock raising and manure collection in our province. In Bayan County, which for many years has had sustained stable and high grain output, most of the communes and production teams have got a tight grip on livestock raising and manure collection, and now the average per mu application of farmyard manure has reached 4,000 jin. By widely building up the "two management and five changes" and the "five haves and three diligents," Hailun County has attained bumper harvests in grain and livestock. Chaoyang Commune in Zhaozhou County, Fendou Commune in Lanxi County, Fuqiang Commune in Baiquan County, Liagang Commune in Suihua county, as well as Lianmin Production Brigade of Lianmin Commune in Keshan County organized their agricultural ranks to raise livestock and collect manure. They have raised pigs in sties and obtained high-priced manure and have also created various methods of making fertilizer, so that in the past several years the more their land is planted the more fertile it becomes, thereby beginning a good approach to organic agriculture. After seeing some models, the comrades taking part in the meeting held unanimously that to do a good job in raising livestock and collecting manure, combining agriculture with animal husbandry and enhancing agriculture's internal energy cycle are effective ways of changing the present local decrease in soil fertility and attaining stable and high grain output. They expressed their determination to spread widely these experiences. The provincial departments concerned have decided to reward a batch of units and individuals who achieve outstanding results in raising livestock and collecting manure.

Wang Luming, secretary of the provincial party committee and vice governor, presided over this on-the-spot meeting held in Bayan and other counties. At the meeting, various advanced units in raising livestock and collecting manure introduced their experiences.

EXHORTATION ISSUED ON FALL WHEAT PLANTING

Xian SHAANXI RIBAO in Chinese 29 Aug 82 p 1

[Article: "Province's Fall Sown Area Substantially Completed; Scientific Farming of Wheat Has Become a Priority Matter; Provincial Bureau of Agriculture Convenes Symposium on Experiences in Bumper Wheat Ouptut"]

[Text] Provincial Bureau of Agriculture statistics as of 24 August report a 281.2 million mu area in the province sown to summer grain. This approaches the area suggested for the province this year.

This year's bumper summer grain harvest greatly encouraged the broad masses of peasants to do a good job preparing for fall sowing to achieve continued increases in output next summer. In making arrangements for the area to be sown in the fall, all jurisdictions emphasized stabilization of the area, readjustments taking place within the context of stabilization, appropriate increases in crops that nurture the soil such as summer grain other than wheat and rice, and rapeseed, a main attack on improved yields per unit of area, and concentration of efforts on medium yield areas. A trend toward possible planting in excess of norms has been predicted for the province.

Not long ago, the Provincial Bureau of Agriculture convened a provincial symposium on bumper wheat harvest experiences at Fufeng. Delegates to the symposium included representatives and experts from each prefecture and municipal bureau of agriculture and agricultural institutes, and from 10 wheat growing counties and agricultural research units in Central Shaanxi. Emphasis was devoted to an exploration of the reasons for this year's bumper wheat harvest and to the laws governing increased yields. In addition, constructive ideas were put forward about this fall's sowing.

Comrades attending the conference believed the main reason for this summer's large bumper crop was active promotion of agricultural production responsibility systems. In communes and brigades that instituted "double contract" responsibility systems, results in increased yields were particularly outstanding. In places having identical natural conditions, results were vastly different when contracting was done and when it was not. When contracting was done, yields increased greatly. Second was steady rise in the level of scientific farming. Of course, this year natural conditions were good. The farmland water conservancy of many years, the

readjustment of crop patterns, the promotion of superior varieties, and promotion of agricultural techniques all functioned to provide impetus. In future under a very good situation in which responsibility systems have been instituted, scientific farming should be made a priority matter.

In summarizing the technical measures accounting for this year's bumper wheat harvest, everybody acknowledged that four relationships were handled well.

The first such relationship was the relationship between wheat and fall grains other than wheat and rice, with wheat production being placed in an important position. This year's experiences further verify that whether grown on wetlands or drylands, wheat is a high yield crop whose potential is very great. To squeeze out summer grain with autumn grain, and to squeeze out wheat with grains other than wheat or rice blindly is incorrect. Of course, in different areas, how the relationship between wheat and grains other than wheat or rice will be worked out will have to be different. The fairly unanimous view of everyone was as follows: In the dry plains prefectures north of the Wei, it is necessary to continue to adhere to a program of "three dominants" (namely the dominance of summer grain in grain production, the dominance of wheat in summer grain production, and the dominance of wheat as the main crop). Central Shaanxi prefectures should treat summer and autumn crops with equal importance and strive for high yields from both seasons. In northern and southern prefectures of Shaanxi, the proportion of wheat is fairly small; however, in some places a potential for increased yields still exists.

The second relationship was the relationship between wheat colonies and individual plants, which promoted balanced yield increases. The number of spikes per mu, the number of grains per spike, and the per thousand weight of grains are the three fundamental elements that make up wheat yields per unit of area. To realize increases in wheat yields, it is necessary to adapt general methods to local situations of soil, water and fertilizer, climate, and varieties, to use scientific farming techniques, and to coordinate the relationship between growth and development of wheat colonies and individual plants. Last winter wheat seedlings were weak and tillering slight. Nevertheless, as a result of intensified care and spring rains, spikes were large and grains plump, and so a bumper crop was harvested. This circumstance demonstrates that the situation of individual plants plays a decisive role in output. Therefore, high yield areas should take the new path for increased yields of small plant colonies and sturdy individual plants. Owing to the restriction of soil fertility and water and fertilizer conditions, medium and low yield areas should continue equal emphasis to plant colonies and individual plants, make efforts to increase soil fertility and to increase the amount of sowing so as to make sure that main stems form spikes, and finally to guarantee that each mu has a sufficient number of spikes to achieve the goal of increased yields.

The third relationship was the relationship between planting and field care with planting being placed in the priority position. "Planting is most important but the wheat harvest depends on care" is a capsulization of long

practical experience by the peasant masses. Wheat is a closely planted crop, and in dry plains areas in particular, because of the effects of precipitation, there is little room for maneuver for doing more work or increasing fertilization as part of field care once sowing has been done. In irrigated areas where water and fertilizer conditions are good, the room for maneuver to win victory through field care is greater, but good planting can greatly reduce increased expenditures resulting from additional field care measures. Twice as much can be achieved with half the effort. Good planting is the foundation and completely accords with the laws of wheat's growth and development. To a very large extent this year's bumper wheat harvest resulted from having devoted attention to three points when the wheat was sown last fall. First was scientific fertilization with increased applications of base fertilizer, promotion of deep fertilization with a combination of chemical phosphate and potash fertilizers, and fertilizing before the advent of winter. Second was a sensible layout of varieties with the area of the province planted to superior varieties amounting to 80 percent of all wheatfields. Third was triumph over disasters caused by rainfall and waterlogging in order to compress the sowing season so that 70 percent of the wheatfields were planted during the season that produces high yields. Without this foundation, achievement of a bumper harvest this year would have been hard to imagine. Likewise, even with such a foundation, had it not been for a series of field care tasks last winter and this spring, achievement of high yields would also have been impossible.

The fourth relationship is the relationship between winter and spring care with emphasis on care once planting has been done. In view of the situation last year of few basic wheat seedlings, little tillering, and small plant colonies before the arrival of winter, the former method in which control was dominant was changed for a combination of stimulation and control in caring for large plant colonies of flourishing seedlings, attention being concentrated mostly on stimulation and the breeding of sturdy seedlings for very good results. This experience merits serious attention. This year's experience with a bumper wheat harvest shows that that both pre-winter care and springtime care are both very important. Pre-winter care, in particular, positively cannot be overlooked. Emphasis should be placed on care as soon as planting has been done with "early" being the key word, making full use of the beneficial opportunity before the arrival of winter to intensify field care.

In short, as a result of natural conditions, experiences with increased yields in agricultural production are always formed by and accumulated by certain conditions. When we summarize experiences, it is necessary, first of all, to affirm many years of effective basic experiences and the new experiences produced by special conditions, and then dialectically and conditionally to apply them. One cannot take the experiences of any particular year as experiences of general applicability or use experiences under special conditions as basic experiences. For example, one cannot take "delayed planting of wheat can bring bumper harvests," or "delayed care can also increase yields" as basic experiences for promotion.

The time for fall sowing this year will soon be here, and comrades believe that beginning right now summer grain producing areas should concentrate attention on five matters as follows:

1. They should widely arouse the masses to make a mass summarization of this year's experiences in a bumper summer harvest to buttress their confidence in achieving an even greater bumper harvest.
2. They should respect the views of the masses and put production responsibility systems in place with all possible speed before fall sowing begins.
3. They should do an all-around good job of work preparatory to fall sowing, concentrating on preparations for applying base fertilizer to wheatfields, and to readying the land to maintain soil moisture and for the planting of wheat. They must be sure to plant the wheat on a genuine foundation for bumper harvests.
4. They should institute fall sowing quotas.
5. They should adopt various means for launching technical training. Agricultural institutes, technical promotion departments, seed departments, plant protection departments, soil fertility departments, and technical cadres should develop the signing of technical contracts with communes and brigades in a planned way, establish technical service stations and consulting offices, print and disseminate small scientific and technical bulletins, run scientific and technical discussion groups, engage in short term training, and widely publicize practical techniques in scientific farming.

On 21 August, the provincial government sent forward the report on the symposium proceedings and called upon all jurisdictions to concentrate their strength on doing a good job of preparing for fall sowing to lay a good foundation for a bumper summer harvest next year.

9432

CSO: 4007/5

SPRING SOWING COMPLETED IN GOOD TIME DESPITE DROUGHT

Jinan DAZHONG RIBAO in Chinese 9 Jun 82 p 1

[Article: "Rural Areas of Our Province Complete Spring Sowing Task in Good Time"]

[Text] Led by the party committees and governments at all levels, the great number of cadres and masses in our province, fighting bravely against a serious drought, have completed the in spring sowing task in good time, and the quality of sowing on the over 46 million mu of spring fields is better than expected.

This year our province's spring sowing was carried out under conditions of a severe drought over consecutive years. The severity of the drought, the shortage of water sources, and the degree of difficulty in spring sowing were all rare in history. Faced with the serious drought, the great number of cadres and masses carried on the spirit of arduous fighting and consecutive battles and carried out a tenacious struggle. In March, the provincial party committee and the provincial government held, one after the other, a drought-resistance "double contract" [fixing output quotas based on households and peasant households assuming full responsibility for task completion] symposium and a cotton production symposium, and also sent out three work teams to go separately to various places to help resist the drought. Most of the responsible comrades of the provincial party committee and the provincial government went to the frontline of production and provided specific help at the basic level in solving real problems. The various areas, integrating this help with their own reality, conscientiously strengthened their leadership and universally focused on leadership, labor, time, water sources, and water implements. Because the leaders in these areas vigorously grasped affairs, the production responsibility system was further perfected, thereby promoting the successful carrying out of drought-resistant early spring sowing. Sowing was begun almost a week ahead of the time it began last year, and the entire sowing period was shortened by 10 days to half a month as compared to that of last year. "March seedlings" were brought to 70 or 80 percent of the cotton fields. In the process of preparing for sowing and sowing, the various areas by all ways and means expanded the area under irrigation bringing moisture to the soil, prepared the soil meticulously, increased the application of fertilizer, and regulated and replaced good strains, thereby laying a good foundation for agricultural bumper harvests throughout the year.

In order to do a good job of fighting the drought and carrying out spring sowing, the central authorities and the provincial authorities, under comparatively difficult financial circumstances came up with over 53 million yuan in funds for use by various areas in our province in water conservancy projects that would fight the drought, and at the prefectural and county levels over 46 million yuan were extracted from local finances to aid in the fight against the drought. Commercial departments and supply and marketing departments gave priority to supplying materials such as drought-resistance oils; at a crucial moment in the sowing the electrical power departments provided an additional 150,000 kilowatts of electricity for fighting the drought and the industrial departments relinquished 170,000 kilowatts of electricity. The PLA stationed in our province gave energetic support in manpower and materiel.

Now, of the province's 46 million mu of spring-sown crops, over 80 percent have reached a full stand, and most of them are coming along better than last year. There is widespread squaring on the over 20 million mu of cotton, and some of the cotton has already entered the squaring stage. While getting a tight grip on summer harvest and summer planting, all the areas are vigorously taking measures, rationally deploying labor power, and intensifying spring seedling field management so as to strive by every means to have the autumn season supplement the summer season and thus attain bumper harvests throughout the year.

9727

CSO: 4007/472

AUTHOR: LIANG Dasheng [2733 1795 0524]

ORG: Guangdong Provincial Department of Agriculture

TITLE: "Ways of Producing the Lean-meat Type Guangdong Pigs"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 1-4

ABSTRACT: There are pigs raised for fat, pigs raised for lean meat, and pigs raised for both uses. With the expansion of foreign trade and rising standard of living, the market demand for the lean-meat type pork has been rapidly growing. In order to produce the lean meat type porkers, there are 4 methods to choose from: (1) Raising pure breed or hybrids of the 4 meat porkers already introduced; (2) Breed or cross the province's own fat porkers with foreign species as the province has no native lean-meat type pigs; (3) Reconstruct native fat type pigs and transform them to the meat type; (4) Hybridization using all commercial pigs of the lean-meat type. Following discussions of these methods of breeding lean porkers and factors, such as the nutrition level, the feeding method, and the butchering time, which contribute a great deal to the lean meat content, the paper suggests that in order to produce more lean meat porkers, the province should practice the system of higher purchase price for better quality porkers, establish meat porker production lines, strengthen selective breeding, and enlarge the sources of protein rich feed.

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TITLE: "Compilation and Application of the Experimental Feeding Standard of Meat Chickens in Guangdong Province"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 4-7

ABSTRACT: In the process of formulating the standard, the emphasis was to study the energy and protein requirements of the meat chickens of local and introduced varieties in the province. The method of biostatistics was employed to analyze and compute the metabolism and protein needs of 3150 seed chicks and 4625 meat chickens to derive a regression equation to calculate the relationship between the daily protein intake and daily weight gain. The result was checked with the National Chicken Feed Standard (draft) and the NRC Standard (7th edition) of the USA. The contents of the experimental standard are reported and discussed, including contents of typical feed mixtures recommended and their contents of nutrients.

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TITLE: "Relationship Between Temperature and Contents of Chlorophyll, Root Vitality, and Soluble Sugar Content of Hybrid Rice"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 8-12

ABSTRACT: This paper reports experiments the results of which demonstrate that during certain key stages of growth and development, such as ear-forming [boot] stage, the difference of chlorophyll content between cold and warm weather is great, and the greater is the difference, the poorer is the fruiting rate. Results of α -naphthamine oxide tests and the method of fluid flow quantity (weight) of root wound demonstrate that the lower the temperature the greater is the weight reduction of the fresh root. Results of anthrone method of measuring the soluble sugar contents demonstrate that the sugar content of the spike is higher when the temperature is either suitable or higher. Under low temperature conditions, the sugar content of the spike drops somewhat and its resistance to adversity is also weakened. Detailed data of the experiments are reported.

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TITLE: "Quick Method of Breeding Three Generations of Late Rice in One Year"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 12-15

ABSTRACT: Since 1979, a method has been adopted to start cultivating late rice in the winter in Hainan Island, followed by direct seeding in Guangzhou using short-daylight treatment with shades to produce 3 generations in one year. With this method, basically stable materials may be selected out in 2 years [instead of grow-one generation a year.] Of the new line of late rice thus produced, Qinghuai expresses good resistance to white withering disease with a relatively high yield, 15 percent higher than the control, Erbaiai. Major technical measures of the 3-generations in one year breeding method are introduced in some detail.

AUTHOR: None

ORG: Qujiang County Institute of Agricultural Sciences

TITLE: "Principle of Cold Tolerance of the Method of Thin Film Seedling Cultivation Without Bud-forcing and the Value of Its Utilization"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 15-18

ABSTRACT: In the past 10 years, the institute has adopted the technique of using plastic film cover to cultivate early rice seedlings without bud forcing (i.e. seeding directly after soaking.) There has been no incidence of dead seedlings even under the severely low early spring temperature condition of 1976 and 78. The method has made it possible to use intermediate ripening varieties of early rice to allow enough time for turning and transplanting the late rice crop after the early rice harvest. Experiments demonstrate that with bud forcing, the bud grows faster than the root to cause the endosperm to be consumed much too fast. This is not favorable for the seedling to develop cold resistance. The use of plastic film creates the favorable condition for the seeds to germinate normally, i.e. without bud forcing and for the seedlings to develop natural and healthy root system which protects the seedlings from the cold temperature.

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TITLE: "Analysis of Black-root and Yellow-stunt Condition of Medium-size Rice Seedlings With Soil Grown in Trays"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 19-21

ABSTRACT: Rice seedling standardization is the key to machine transplanting and growing seedlings in trays is an effective method of standardization. But, seedlings grown in trays without air holes are found to have black-root and yellow-stunt conditions when they are left in the tray until the medium-size stage, i.e. having 3-5 true leaves. The longer the seedlings are left in the tray before transplanting, the more severe are the conditions. This paper reports a study on the relationship between the size of the air hole or the total area of the air holes and the black-root and yellow-stunt conditions of the rice seedlings. It is determined from the study that under the condition of 30 percent air hole area at the bottom of the tray, with hole diameters of 4.8, 6.0, 8.0, or 10.0 mm, the quality of seedlings is close to that of those grown in outdoor open seedbeds. The effect of air hole area is greater, and under the condition of 30 percent area of holes, 4.8 mm diameter holes are best for the seedlings.

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TITLE: "A Study on Soil Organic Matter of Major Paddies in Zhujiang Delta"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 22-26

ABSTRACT: Beginning in 1979, the authors carried out a project of fixed position observation and analysis of soil organic matter characteristics of paddies of some major soil types in counties of Zhongshan, Nanhai, Fanyu, Doumen, Xinhui, Dongyuan, and Shunde of the Zhujiang [Pearl River] delta. Findings of the study include the following: (1) Organic matter and nitrogen contents of the sediments and newly diked paddies vary very little to indicate uniformity of parent materials in the delta; (2) In general, the organic matter and nitrogen contents of sugar cane fields are lower than those of rice paddies, yet they are still higher than those of the sediments or newly reclaimed land; (3) Organic matter balance varies a great deal from paddy to paddy to indicate that some paddies are developing in the direction of mature soil and others in the direction of bony thin soil; (4) The oxidation rate of organic matter is higher in sugar cane fields to indicate that an upland cropping environment is more favorable for organic matter conversion than the paddy environment; old organic matter that is difficult to decompose can be found in the paddies. The following effective measures are proposed: (1) Regular applica-

[continuation of GUANGDONG NONGYE KEXUE No 5, 1982 pp 22-26]

tion of organic fertilizer and consistently turning stubble back into the soil; (2) Practice paddy and upland crop rotation to promote material transformation in the soil.

AUTHOR: HE Mingwei [0149 6900 0251]

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TITLE: "Effects of Different Winter Crops in Dual-season Rice Paddies on Yield Increase and Fertility Nurturing"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 27-30

ABSTRACT: Experiments were carried out from the early season of 1978 to the late season of 1980 in Fushan Prefecture under the condition of cultivating 2 crops of rice a year, to observe the effect of different winter crops, wheat, wheat and green manure, or beans on soil fertility and the total unit yield. After continuously cropping of these 3 years, the organic matter and whole nitrogen contents of plots of all systems of crop rotation are higher than before the experiment, but regarding nutrient balance, the loss of potassium is very great. In general, there is some gain in nitrogen, a great deal of gain in phosphorus, and a very large loss in potassium. With the rotation system of rice, rice, wheat, a great deal of chemical nitrogen is applied, but the quantity of nitrogen gain is the smallest. With the system of rice, rice, beans [broad bean] the smallest amount of chemical nitrogen is applied, but the nitrogen gain is 0.82 jin/mu higher. With the system of rice, rice, wheat and green manure, the same amount of chemical nitrogen is applied in addition to the green manure, the nitrogen gain is the highest, 4.30 jin/mu, compared with 2.37 jin/mu with the rice, rice, wheat system. An increase of potassium fertilizer application is extremely important, of course, regardless of the crop rotation system.

AUTHOR: YU Chongda [0151 1504 6671]

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TITLE: Brief Introduction of a Lean-meat Type Porker--the Hanhua Swine"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 p 43

ABSTRACT: The Hanhua swine is bred by the institute through hybridization of of a Guanghua mother and Hampshire father. The hybrid Hanhua has only a thin layer of fat on the back. The lean meat rate is 53.53 percent and the daily weight gain is 632.38 g. To gain 1 kg of live weight, the Hanhua swine requires 9130.32 Cal of digestible energy and 353.77 g of digestible protein. The quality of the meat is very good. It is a meat type commercial porker worthy of extension.

6248

CSO: 4021/8

Machinery

AUTHOR: QIAN Yanqia [6929 8746 2881]
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ORG: QIAN of the Wuhan Institute of Technology; LU of Fujian College of Agriculture; PAN of Zhenjiang Institute of Agricultural Machinery

TITLE: "Study of Rheological Characteristics for Paddy-field Soil of China (2)-- Investigation on Thixotropic Behavior for Clayey Paddy-field Soil"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 3, 1982 pp 9-15

TEXT OF ENGLISH ABSTRACT: In this paper the paddy-field soil is examined with the extrusion rheometer and is considered to be a thixotropic material. It is found that the thixotropic effect is intensive when the moisture content of the soil is within the range of 40 percent to 70 percent. The empirical equation which expresses the relation between the thixotropic rate and the moisture content of the soil can be presented as follows:

$$T = aw^be^{cw}$$

General aspects of foreign investigations of the soil thixotropic behavior are also mentioned in this paper.

AUTHOR: DONG Guohua [5516 0948 5478]
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ORG: Both of the Chinese Academy of Agricultural Mechanization Sciences

TITLE: "The Influence of Airstream Distribution Along a Sieve on the Separation of Grain Mixture"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 3, 1982 pp 16-28

TEXT OF ENGLISH ABSTRACT: An analysis has been carried out that indicates that the motional trajectory of grain mixture is influenced by factors such as velocity and direction of airstream, initial velocity and direction of the materials. The velocity and direction of airstream are considered to be main factors. The critical velocity at which the various parts of materials are blown out of the sieve of 1.2 m in length has been calculated. The airstream distribution on a sieve has been analyzed with the new concept that the airstream velocity varies along the sieve and decreases linearly with the height over the sieve. The influence on the separation of three typical modes of airstream distribution is analyzed. Also, the influence of the arrangements of working elements in the cleaning shoe on the airstream distribution and the problems in adjusting the airstream distribution on the sieve by setting the air deflector plates are studied.

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TITLE: "Study of Physical and Mechanical Properties on Vibration of Paddy and Wheat Crops"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 3, 1982 pp 29-41

TEXT OF ENGLISH ABSTRACT: A number of research works have verified that crops in a head-feeding threshing cylinder have a vibratory form of motion. The physical and mechanical properties of vibration for paddy and wheat crops have been researched, and measurements have been taken for geometrical dimensions relating to vibration, weight, rigidity, damping, etc. The natural frequencies and normal vibratory modes in ear and stalk systems for some lower steps under varied conditions (depending on varied boundary conditions) were measured. Theoretical calculations and analyses were made using a mathematical mode on a computer. The results of the tests and theoretical calculations indicate that, similar to the physical and mechanical characteristics of the crops, the performance of mechanical vibration is also one of inherent properties for each crop and has definite statistical regularity. It is important to explore these properties and apply them to the principles of a head-feeding threshing machine.

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TITLE: "Experimental Research on Tooth Bearing of the Spiral Bevel Gears of Tractors"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 3, 1982 pp 42-52

TEXT OF ENGLISH ABSTRACT: When the setting of a pair of spiral bevel gears, such as its mounting distance, shaft offset and shaft angle, etc., was changed, its tooth bearing varied in some way. In this paper, the patterns of the tooth bearing variation of Gleason and Oerlikon spiral bevel gears for tractor (or automobile) main driving were studied and summarized, and a criterion for determining the direction of the shift of the tooth bearing along the tooth width was advanced. Based on the loading test for both types of spiral bevel gears on the "Dongfanghong-75" tractor, the patterns of the tooth bearing variation under loading were presented.

AUTHOR: SUN Weigong [1327 4850 1872]
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ORG: Both of the Luoyang Tractor Research Institute

TITLE: "On Suitable Fitting of Centering Surfaces Between Mating Spline Parts in Agricultural Machinery"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 3, 1982 pp 53-62

TEXT OF ENGLISH ABSTRACT: A study on the working behavior of centering surfaces between mating spline parts is made in this paper by means of the analysis of kinematics and dynamics of the spline parts when the axes of the two mating parts (the spline shaft and the coupled gear) slope, the measurement of axial thrust at the gears coupled with the spline shaft in the gear box under both laboratory and field test conditions, and the statistical analysis of information from practical applications on several models of tractors. The results show that the gears on which the teeth are located at either end (or at both ends) of the spline hub will slope with respect to the axis of the spline shaft due to the existence of clearance between fitting surfaces when the gears are being loaded and this slope will cause a relative axial slide between the mating spline parts when the parts are rotating around their axes. Add to this the uneven distribution of the tangential forces at the spline teeth and the effect of friction in contact surfaces,

[Continuation of NONGYE JIXIE XUEBAO No 3, 1982 pp 53-62]

and an axial thrust and movement of the coupled gears will occur. When the clearance increases up to a certain limit, for instance, to 0.07 - 0.1 mm for a shaft diameter in the range of 30-50 mm, the axial thrust will increase and that will cause severe wear on the contact surfaces of both the spline teeth and the gear shift forks, and self-disengaging of the shift gear from its meshing position may happen when the tractor is working. According to the requirements of application and processibility of the splines with hard broached holes, the authors suggest suitable fitting of centering surface between mating spline parts for different construction and working conditions.

9717
CSO: 4011/13

AUTHOR: YU Yutai [0151 0645 3141]

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TITLE: "Development of a Science of Agricultural Mechanization on the Basis of A Chinese Style Mechanization of Agriculture--Beginning With a Review of the Process of Agricultural Mechanization in Heilongjiang Province"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 3, Sep 82 pp 1-8

ABSTRACT: Comparing the results of 30 years of agricultural mechanization in Heilongjiang Province with those in the USA and Japan, the author maintains that agricultural mechanization obviously failed in Heilongjiang Province in terms of reducing the number of draft animals and the farm population and in terms of increasing the income of farmers. Although the USA is a country of large land and small population while Japan is a country of small land and large population, agricultural mechanization succeeded in both countries in those terms. The author claims that the failure is due to insufficient coordination of related departments of the national economy. The supply of some machines is not in line with the demands, and there has not been serious study and development of a science of agricultural mechanization. Such a science should contain the following: (1) A system of agricultural machines; (2) Energy sources for agricultural production; (3) Operation and management of agricultural mechanization; (4) Extension and service of agricultural mechanization; (5) Economics of agricultural mechanization. With the development of that kind of science, a Chinese style agricultural mechanization may emerge to cause it to be specially suitable for the Chinese condition of

[continuation of NONGYE JIXIE XUEBAO No 3, 1982 pp 1-8]

being a socialist country of little per capita natural resources and weak foundations of economy and industrial and agricultural technology. In the viewpoint of the author, the Chinese style agricultural mechanization should possess the following major characteristics: (1) An outlet should be arranged for every farm labor displaced by agricultural mechanization; (2) The chief goal should be yield increase and energy saving; (3) The capital for agricultural mechanization should come from a combination of self-reliance of communes and brigades and State financial assistance. The key is suitable techniques instead of a hurry pursuit of total mechanization. Consideration must be given to the interests of all 3 sectors of the State, the collective bodies, and the individuals. Some farmers should be allowed to get rich first, yet, the wealth of all must also be the goal.

6248

CSO: 4011/13

Natural Resources

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ORG: NA of Natural Resources Comprehensive Survey Committee, Chinese Academy of Sciences; LI of East China Teachers University; WANG of Jian Prefecture Planning Committee, Jiangxi Province

TITLE: "Main Points of Agricultural Regionalization of Taihe County, Jiangxi"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 3, Sep 82 pp 9-11

ABSTRACT: On the basis of soil surveys and forest surveys, the 90-thousand-character volume, TAIHE COUNTY COMPREHENSIVE AGRICULTURAL REGIONALIZATION, JIANGXI PROVINCE has been compiled. Its major contents are outlined in the paper. The abundant resources of light, heat, and water of the county are favorable for the growth of many types of subtropical plants. There are 1.255 million mu of forest cover but very few grasslands. Only about 1/5 of the county is cropland and the mountains and hills are poorly utilized, leaving a great potential for development. The regionalization plan (map included) divides the county into 5 agricultural regions: (I) Timber forest region of western mountains and hills; (II) Grain and oil producing tree region of hills and plain to the west of Ganjiang river; (III) Economic crop region of Ganjiang river valley plain; (IV) Grain and oil producing tree region of the hills to the east of Ganjiang; (V) Timber forest and oil tea [*Camellia oleifera* Afel.] region of the mountains and hills in the southeastern part of the county. Detailed development plans are also outlined in the paper and discussed.

AUTHOR: HE Weicheng [6320 0251 4453]

ORG: Water Resources Research Institute, Research Academy of Water Conservancy and Hydroelectricity

TITLE: "Preliminary Evaluation of Water Resources of Beijing City"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 3, Sep 82 pp 12-20

ABSTRACT: In recent years, water consumption has been increasing rapidly in Beijing City. The phenomenon of various users competing for water occurs frequently. It is high time to give an accurate evaluation of the city's water resources. On the basis of a study on the transforming relationship of runoff of Haihe and Kuanhe valleys, the paper fully utilizes all available survey data and research results, to compute the atmospheric precipitation, the stream runoff, the ground water supplement to produce a multi-year average quantity of water resources in Beijing of 56.6 hundred million m³. After calculating the water consumption of agriculture, industries, and the city's inhabitants, the paper concludes that in an average year, the supply and the demand can reach a balance and Beijing may even provide 6 hundred million m³ of water to Tianjin. In years of shortfall, Beijing not only cannot supply Tianjin with water but also will be 4 hundred million m³ short in the first year. Ways must then be found to restrict water use for agriculture. If drought continues for 2 years, the deficiency will be 14 hundred million m³. Development and utilization of water resources have reached a very high level in Beijing. Measures to be taken to manage the current new stage of determining the needs according to the supply are discussed.

AUTHOR: WANG Wenkai [3769 2429 2818]

ORG: Research Institute of Geography, Henan Provincial Academy of Sciences

TITLE: "Preliminary Study on Scientific Ways of Transferring the Water of Huanghe"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 3, Sep 82 pp 21-29

ABSTRACT: In an average year, Huanghe has a water volume of 480 hundred million m^3 and carries 16 hundred million tons of silt. By 1980, more than 200 hundred million m^3 of its water was used to irrigate 50 hundred million mu of cropland and there remained 200-300 hundred million of its water draining into the sea. As there is no other source of irrigation water for the banks of Huanghe, transferring its water is a necessity, but in the lower reaches, Huanghe flows above the ground and its small branches are basically seasonal drainage channels; therefore, in this area the only source is ground water, which must be locally supplemented. In many places, the ground water has been used beyond the quantity of local supplement to cause obvious drop of the water table, and transferring the water of Huanghe to recharge the ground water has become an urgent necessity. This paper analyzes these and other situations and suggests scientific ways of using the water of Huanghe along with its silt to reconstruct large areas of saline and alkaline lands in Kaifeng and Shangqiu, for example, where 2-3 million mu of such wasteland are awaiting development.

AUTHOR: XU Mengying [6079 1322 5391]

ORG: Research Institute of Geography, Chinese Academy of Sciences

TITLE: "Rate of Precipitation Variation of Ten-day Periods During the Flood Stage of May to September in East China"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 3, Sep 82 pp 51-58

ABSTRACT: In China, especially East China, precipitation is influenced mainly by monsoons and about 1/2 to 2/3 of the annual rainfall is concentrated in the summer, which is the key period of crop growth. The amount of monsoon rains basically determines the amount of yield. Chinese scientists had studied the rate of variation of monsoon rains in the 30's and 50's but mainly on annual and monthly variations. Based upon long term precipitation data of the Central Weather Bureau, the author selected the records of 110 weather stations located to the east of 100° E. Long, and $20-50^\circ$ N. lat. The data analyzed are for the 15 10-day periods of May-Sep in the 24 years of 1952-1975. Judging from the spatial distribution of the rate of variation of 10-day periods, the changes appear to be gradual and may be generally divided into 4 types. The maximum variation rate and the minimum variation rate are computed and locations of their axes defined. The movement of the axes is found to be related to the northward advance and southward retreat of the subtropical high pressure system.

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ORG: All of Natural Resources Comprehensive Survey Committee, Chinese Academy of Sciences

TITLE: "Analysis of Supply and Demand of Water Resources in North China Plain"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 3, Sep 82 pp 77-87

ABSTRACT: The N. China plain is frequently visited by natural calamities, which commonly seem to be mostly droughts. Analysis of historical records reveals that on the average there is one drought every 2.6 years and one particularly severe drought every 55 years, but there is one flood every 1.5 years and one particularly severe flood every 16 years. Through an analysis of supplies and demands of many years, the authors conclude that with some additional reservoirs in the mountainous as well as the plain areas of N. China, about 40 hundred million m³ of water supply may be added; therefore, a 75 percent rate of supply for a medium severe drought year can be basically guaranteed if water-source constructions within N. China itself are completed. The paper proceeds further to analyze the water volume of Changjiang during the dry season to demonstrate that transferring water from S. China to the north may not be feasible, at least not in the next 10-20 years. In the long run, feasibility of the project will have to be determined by the water needs of the north, the amount of water of the Changjiang capable of being stored, water needs for treating saline and alkaline lands, changes of the estuary of Changjiang, and the economic capability of the nation.

AUTHOR: None

ORG: None

TITLE: "Abstracts of Speeches of Some Comrades at the Preparatory Meeting of the China Natural Resources Research Conference"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 3, Sep 82 pp 88-96

ABSTRACT: On 6-8 Apr 82, among the participants of the preparatory meeting of the China Natural Resources Research Conference, QI Kechang [3344 0344 2490] MA Shijun [7456 0013 0193] WU Chuanjun [0702 0278 6874] SHI Shan [4258 1472] XU Qing [1776 7230] and MO Jianquan [7796 7003 2164] delivered speeches, explaining the concept of natural resources, the contents of natural resources research, the relationship between natural resources research and modernization construction, and problems relating to the purpose and responsibility of natural resources research. These speeches are individually excerpted in the paper.

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